10 years of data management

From data management to managed data

Neil McNaughton – Oil IT Journal

Outline

- What's in a standard?
- A bit of history
  - Business Objects
  - PPDM/POSC
  - Epicentre
- New Technology adoption
  - XML, WITSML etc.
- Quality and managed data

What's in a standard?

- De facto de jure (Wikipedia)
  - *In computing, de facto standards can sometimes become de jure standards due to market superiority. For example, JavaScript by Netscape (standardized as ECMAScript) and parts of DOM Level 0 (stardardized in DOM Level 1/2 HTML Specification).*

What's standard about 'standard'

- **POSC – open standards**
- **PPDM – public data model**
- ExxonMobil **standard** TCS
- BP '**standardises**' on Microsoft

Read the fine print

What's 'open' about 'open'?

- Petrotechnical **Open** Software Consortium
- **Open**Spirit
- **Open**Works
  - ***Open****Explorer*
  - ***Open****Journal*
  - *etc.*
- Seabed **Open** Data Model

Standard - Open

- Can mean anything
- Marketing
- Sub text
  - Standard promise
  - Plug & play nirvana
  - Interoperability
- Make world a better place?

A bit of history 1995 - 2005

- Legacy – SEGx, RP66, LAS, Geoshare ...
- Data model wars (POSC - PPDM)
- Business Objects
- Open Spirit
- POSC/CAESAR - ISO 15926
- Synergy
- WITSML

PPDM & POSC

- PPDM
  - The reference upstream database (Petrosys, IHS Energy, Finder, others …)
  - Current – OpenSpirit link (July 2005)
- POSC
  - Epicentre (was)
  - Other projects
  - Early XML work
  - WITSML – current – PRODML etc

POSC & PPDM, the merger

- POSC PPDM merger 1993
- Discovery project 1999
- Various (ongoing?) initiatives
- Yuan 2005 – 6 year itch?
  - **a new single-point organization**
  - **areas covered by PIDX, POSC, and PPDM**
  - **This new body …**

Soap #3 Epicentre, Synergy

- Epicentre begat
  - PetroVision (CGG)
  - PetroBank (MDS CDS)?
  - Finder Production extensions ??
  - Synergy

Epicentre's legacy

- Minimal take-up
- Lessons learned
  - Complexity
  - De normalization
  - Learning process – UOM, CRS …
- Plug and play?
- Marketing legacy
- POSC 'compliance

Epicentre's legacy

- From 'plug and play' to what
- Expectation management
- Data management
  - CRS, UOM, metadata
- Back to the future …
  - Look again at file data exchange (RP66 – LIS/DLIS legacy)

Business Objects

- Skunk works in Shell – new CORBA
- Spin-off to Prism Tech
- POSC Business Objects
- PrismTech reborn in telecoms
- POSC BO reborn in OpenSpirit
- OpenSpirit today

Upstream IT & standards

- We are not alone
- Problems shared
- Look outside but …
- Oil a technology laggard?
- In the forefront (CORBA, XML, SOAP)

Validation – just do it!

http://www.w3.org/QA/Tools/#validators

- **List of Quality-focused W3C software**
- W3C MarkUp Validator. - Also known as the HTML validator, it helps check Web documents in formats like HTML and XHTML, SVG or MathML.
- Checklink - Checks anchors (hyperlinks) in a HTML/XHTML document. Useful to find broken links, etc.
- CSS Validator - validates CSS stylesheets or documents using CSS stylesheets.
- RDF Validator
- P3P Validator - Checks whether a site is P3P enabled and controls protocol and syntax of Policy-Reference-File and Policy
- XML Schema Validator
- Log Validator
- MUTAT - a human-centered testing tool (framework)

The W3C Markup Validation Service - Microsoft Internet Explorer

Fichier Edition Affichage Favoris Outils ?

Précédente Rechercher Favoris

Adresse http://validator.w3.org/ OK

Google Search PageRank 36 blocked Check AutoLink AutoFill Options

Markup Validation Service v0.7.1

Home | About... | News | Docs | Help & FAQ | Feedback | Link Checker

Validate:
by URL
by File Upload
by direct Input

This is the W3C Markup Validation Service, a free service that checks Web documents in formats like HTML and XHTML for conformance to W3C Recommendations and other standards.

Validate Your Markup

Validate by URL

Address: www.oilit.com Check

Enter the URL of the page you want to check. Advanced options are available from the Extended Interface.

Validate by File Upload

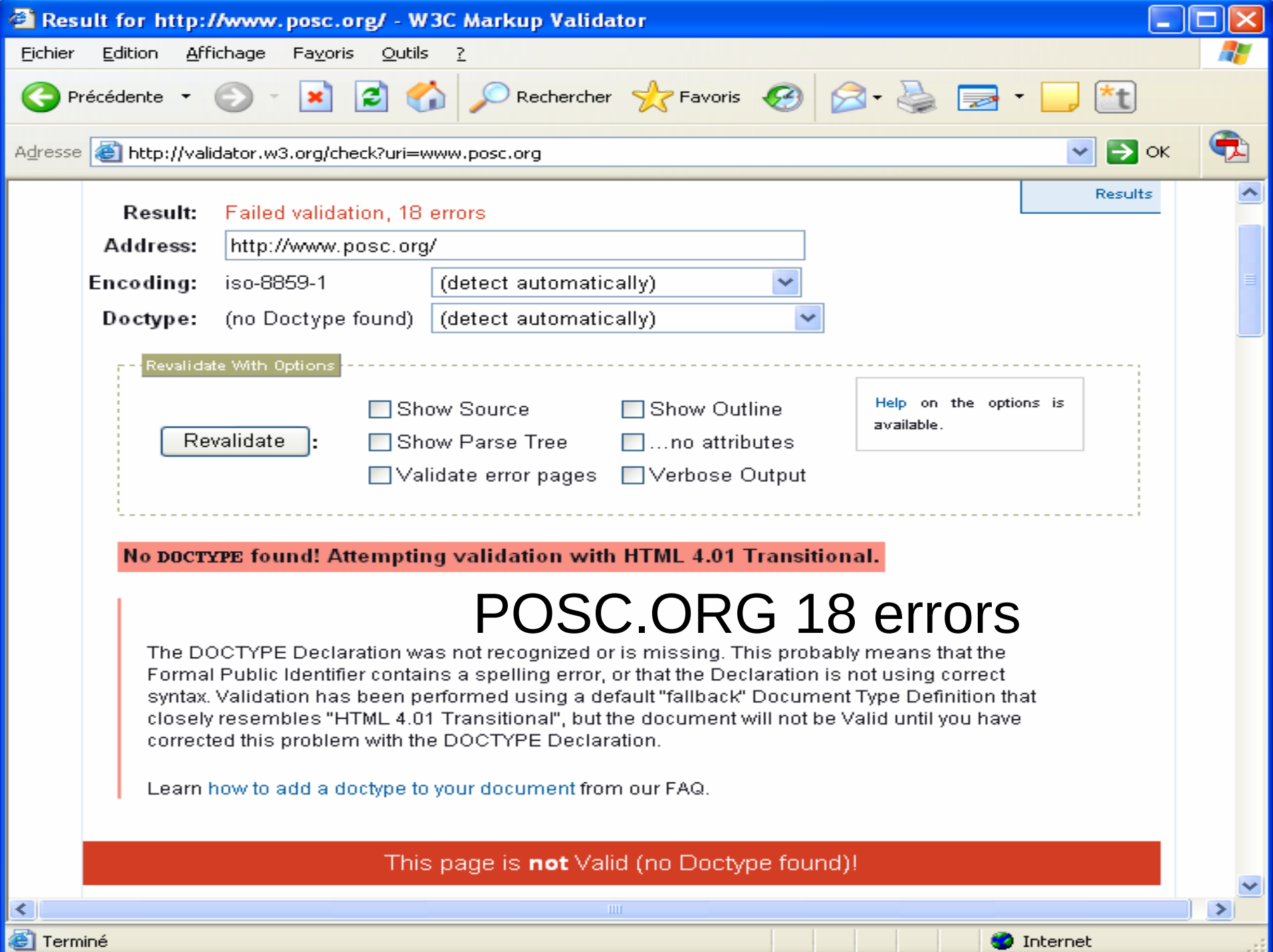
Local File: Parcourir... Check

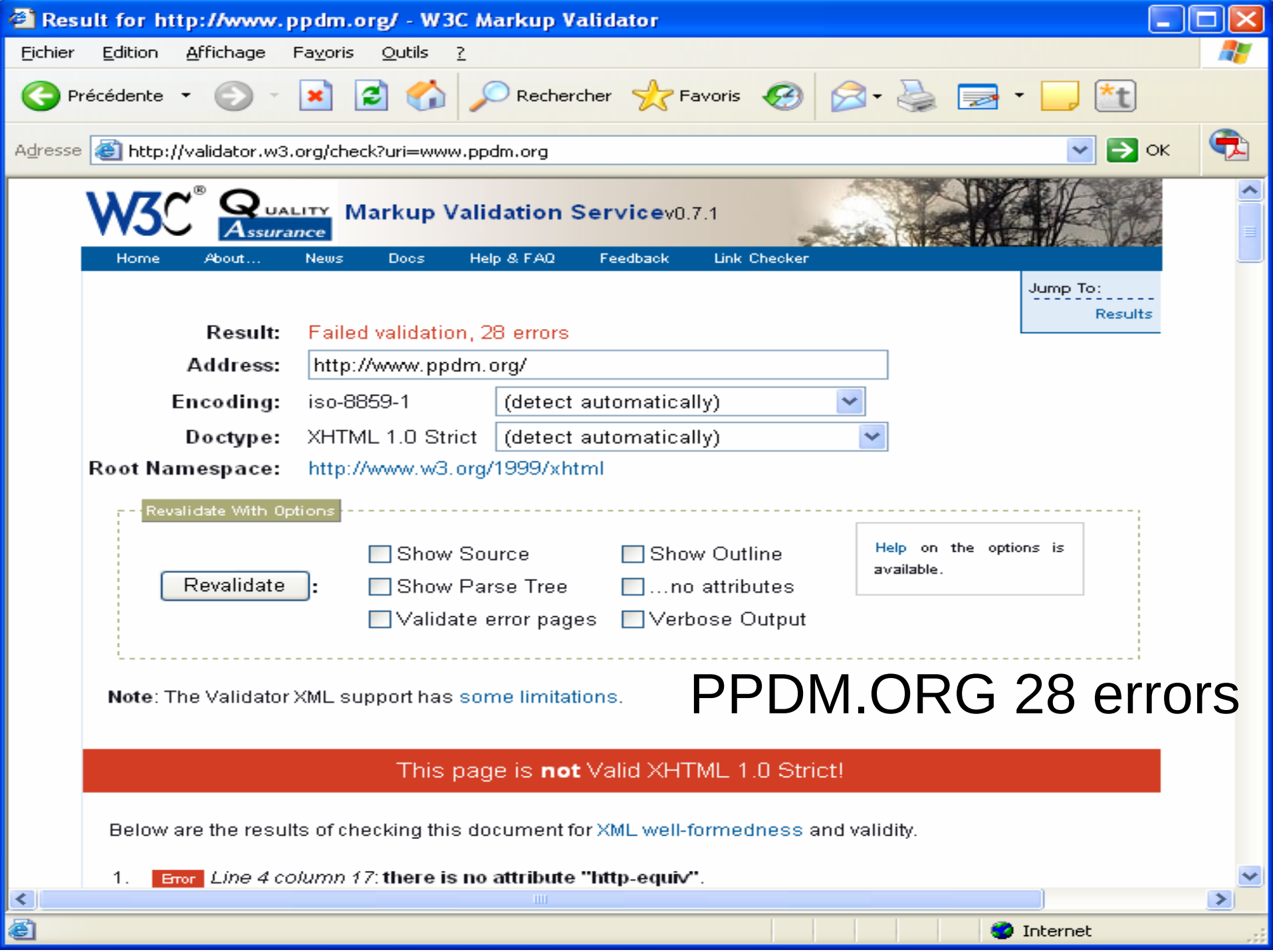
Select the file you want to upload and check. Advanced options are available from the Extended File Upload Interface.

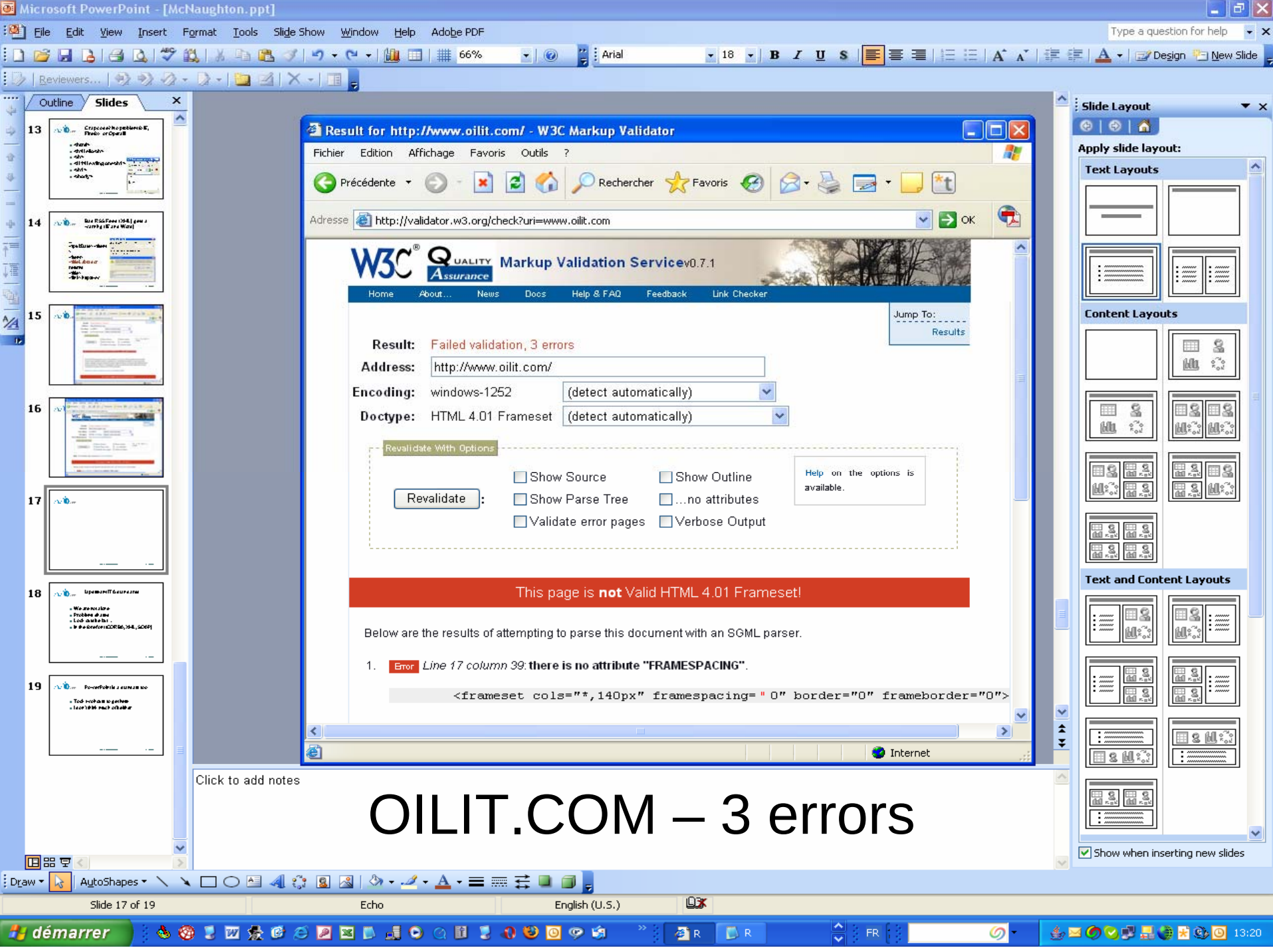
Note: file upload may not work with Internet Explorer on some versions of Windows XP Service Pack 2, see our information page on the W3C QA Website.

Validate by Direct Input

Input the markup you would like to validate in the text area below:


Result for http://www.posc.org/ - W3C Markup Validator
Fichier Edition Affichage Favoris Outils ?
Précédente
Rechercher
Favoris
Adresse
http://validator.w3.org/check?uri=www.posc.org
OK
Results
Result: Failed validation, 18 errors
Address: http://www.posc.org/
Encoding: iso-8859-1 (detect automatically)
Doctype: (no Doctype found) (detect automatically)
Revalidate With Options
Revalidate :
Show Source
Show Outline
Show Parse Tree
...no attributes
Validate error pages
Verbose Output
Help on the options is available.
No DOCTYPE found! Attempting validation with HTML 4.01 Transitional.
POSC.ORG 18 errors
The DOCTYPE Declaration was not recognized or is missing. This probably means that the Formal Public Identifier contains a spelling error, or that the Declaration is not using correct syntax. Validation has been performed using a default "fallback" Document Type Definition that closely resembles "HTML 4.01 Transitional", but the document will not be Valid until you have corrected this problem with the DOCTYPE Declaration.
Learn how to add a doctype to your document from our FAQ.
This page is not Valid (no Doctype found)!
Terminé
Internet


Result for http://www.ppdm.org/ - W3C Markup Validator
Fichier Edition Affichage Favoris Outils ?
Précédente
Rechercher
Favoris
Adresse
http://validator.w3.org/check?uri=www.ppdm.org
OK
W3C QUALITY Assurance
Markup Validation Service v0.7.1
Home
About...
News
Docs
Help & FAQ
Feedback
Link Checker
Jump To:
Results
Result: Failed validation, 28 errors
Address: http://www.ppdm.org/
Encoding: iso-8859-1 (detect automatically)
Doctype: XHTML 1.0 Strict (detect automatically)
Root Namespace: http://www.w3.org/1999/xhtml
Revalidate With Options
Revalidate
Show Source
Show Outline
Show Parse Tree
...no attributes
Validate error pages
Verbose Output
Help on the options is available.
Note: The Validator XML support has some limitations.
PPDM.ORG 28 errors
This page is not Valid XHTML 1.0 Strict!
Below are the results of checking this document for XML well-formedness and validity.
1. Error Line 4 column 17: there is no attribute "http-equiv".
Internet

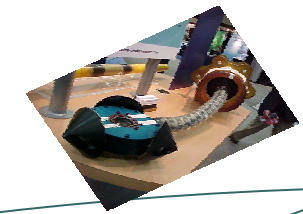

Microsoft PowerPoint - [McNaughton.ppt]
Result for http://www.oilit.com/ - W3C Markup Validator
Markup Validation Service v0.7.1
Result: Failed validation, 3 errors
Address: http://www.oilit.com/
Encoding: windows-1252
Doctype: HTML 4.01 Frameset
This page is not Valid HTML 4.01 Frameset!
Below are the results of attempting to parse this document with an SGML parser.
1. Error Line 17 column 39: there is no attribute "FRAMESPACING".
<frameset cols="*,140px" framespacing="0" border="0" frameborder="0">
Click to add notes
OILIT.COM – 3 errors

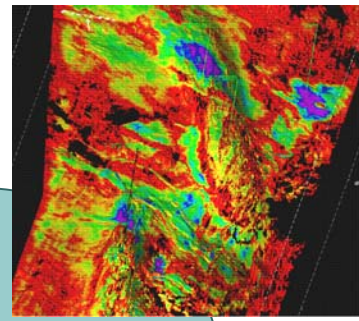
More validation stats

- Total.com 277 errors
- BP.com 137 errors
- Schlumberger 76 errors
- ConocoPhillips 63 errors
- ExxonMobil 49 errors
- Halliburton 44 errors
- Chevron 4 errors
- Shell 3 – but bad ‘uns
- W3C no errors!


IHS ENERGY
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
BACK
0
ENTER ON

Web services'-based DO



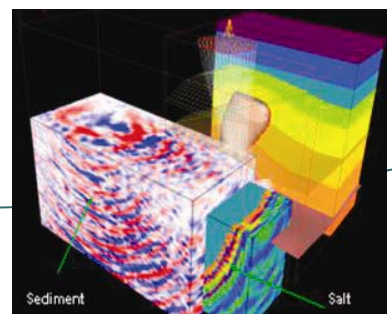


Upstream
WITSML/PRO
DML

ERS/SAP

Plant
Management
ISO 15296

Process
Control
SCADA/OPC



XML data validation on the fly

DrillersNamespace: knows – ‘feet’, ‘meters’

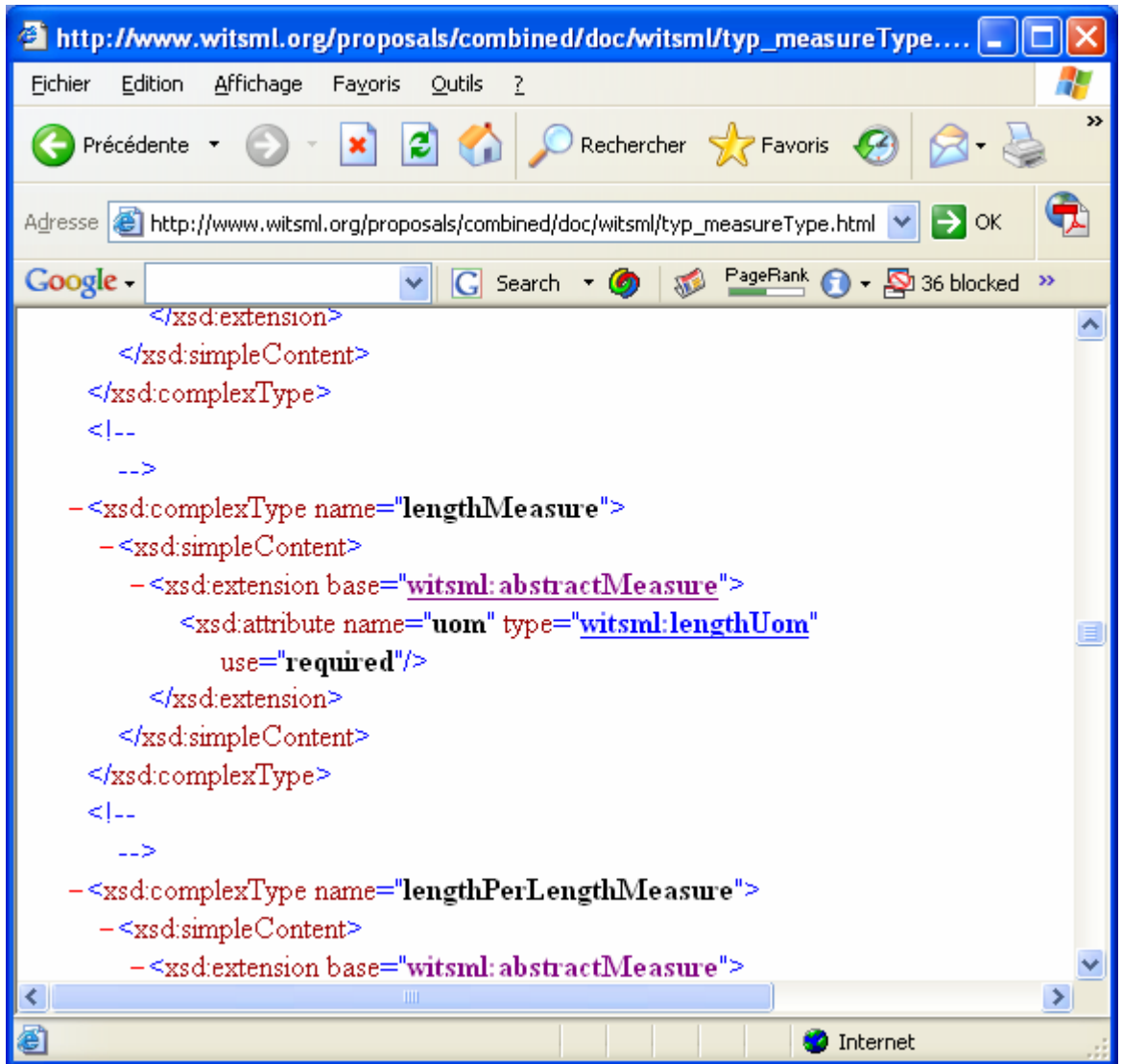
SOAP
Request
‘Get depth in fathoms’

SOAP
Response
‘Sorry, don’t do fathoms’

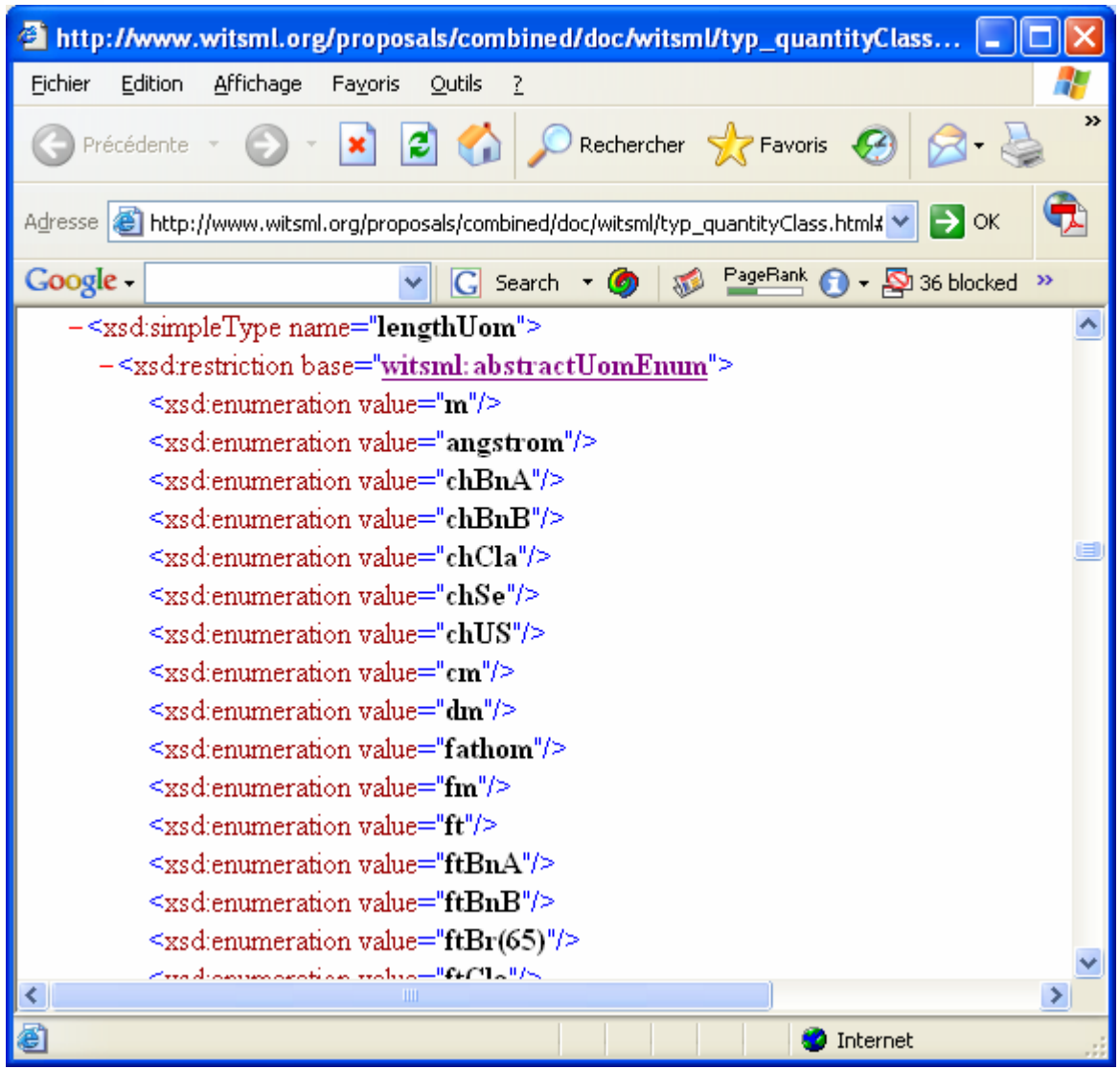
SOAP Request <m:GetCurrentDepth xmlns:m=”DrillersNamespace”>

<m:scale>Fathoms</m:scale>

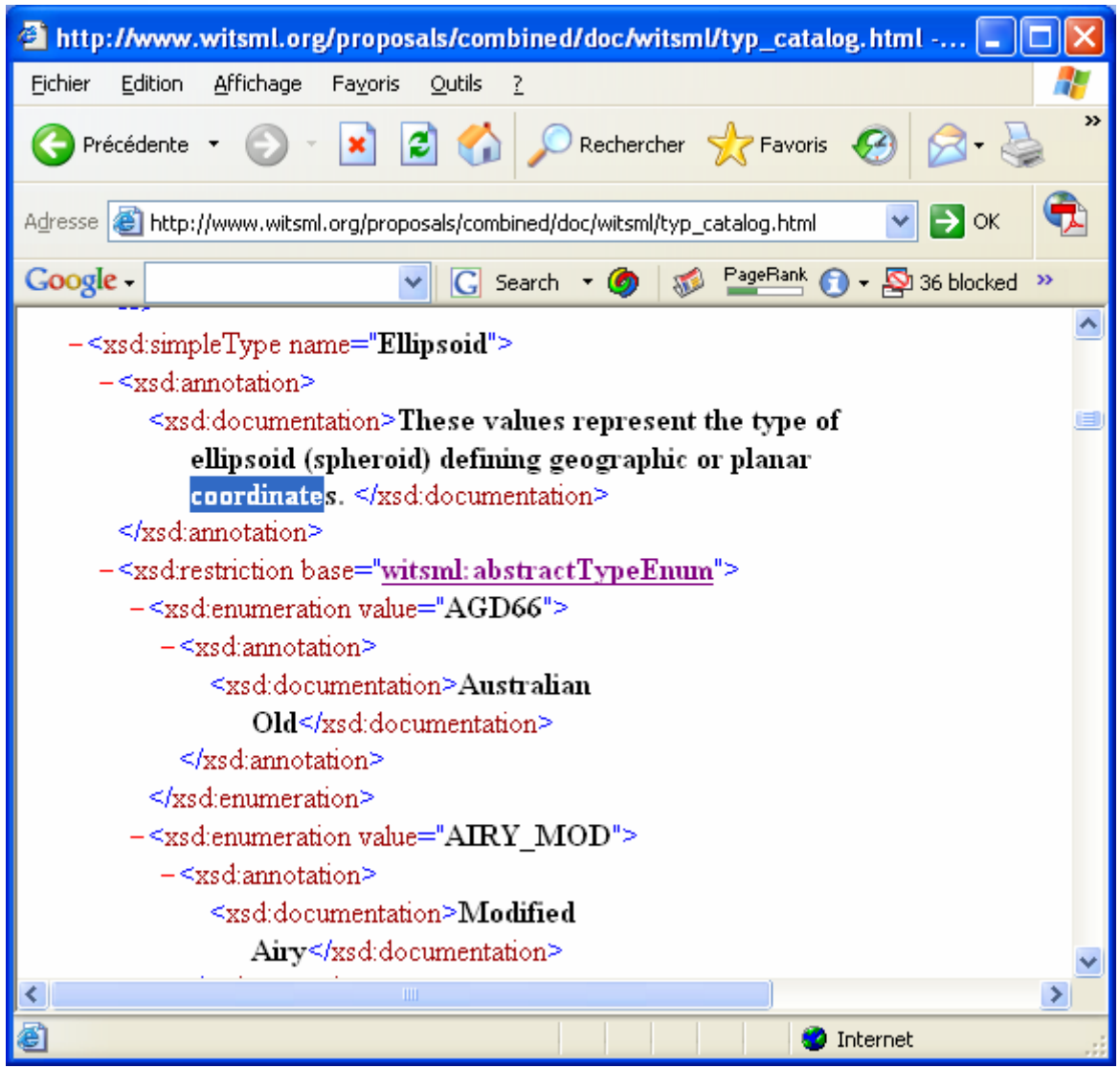
WITSML lengthMeasure



WITSML enumerated units



WITSML manages CRS



WITSML manages data

- Managed CRS, UOM
- Unambiguous data exchage
- Machine to machine
- Validation through SOAP infrastructure
- all through Open W3C standards (plus a stupendous amount of work)
- Leading, not lagging other industries

Quick Guide to Publishing a Thesaurus on the Semantic Web

W3C Working Draft 10 May 2005

This version:
http://www.w3.org/TR/2005/WD-swbp-thesaurus-pubguide-20050510
Latest version:
http://www.w3.org/TR/swbp-thesaurus-pubguide
Previous version:
(this is the First Public Working Draft)
Editors:
Alistair Miles, CCLRC

Abstract

This document describes in brief how to express the content and structure of a thesaurus, and metadata about a thesaurus, in RDF. Using RDF allows data to be linked to and/or merged with other RDF data by semantic web applications. The Semantic Web, which is based on the Resource Description Framework (RDF), provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries.

Status of this Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. A list of current W3C publications and the latest revision of this technical report can be found in the W3C technical reports index at http://www.w3.org/TR/.

This document is a First Public Working Draft published by the Semantic Web Best Practices and Deployment Working Group, part of the W3C Semantic Web Activity. The Working Group intends the Quick Guide to Publishing a Thesaurus on the Semantic Web to become a W3C Working Group Note.

This Quick Guide accompanies the SKOS Core Vocabulary Specification and SKOS Core Guide.

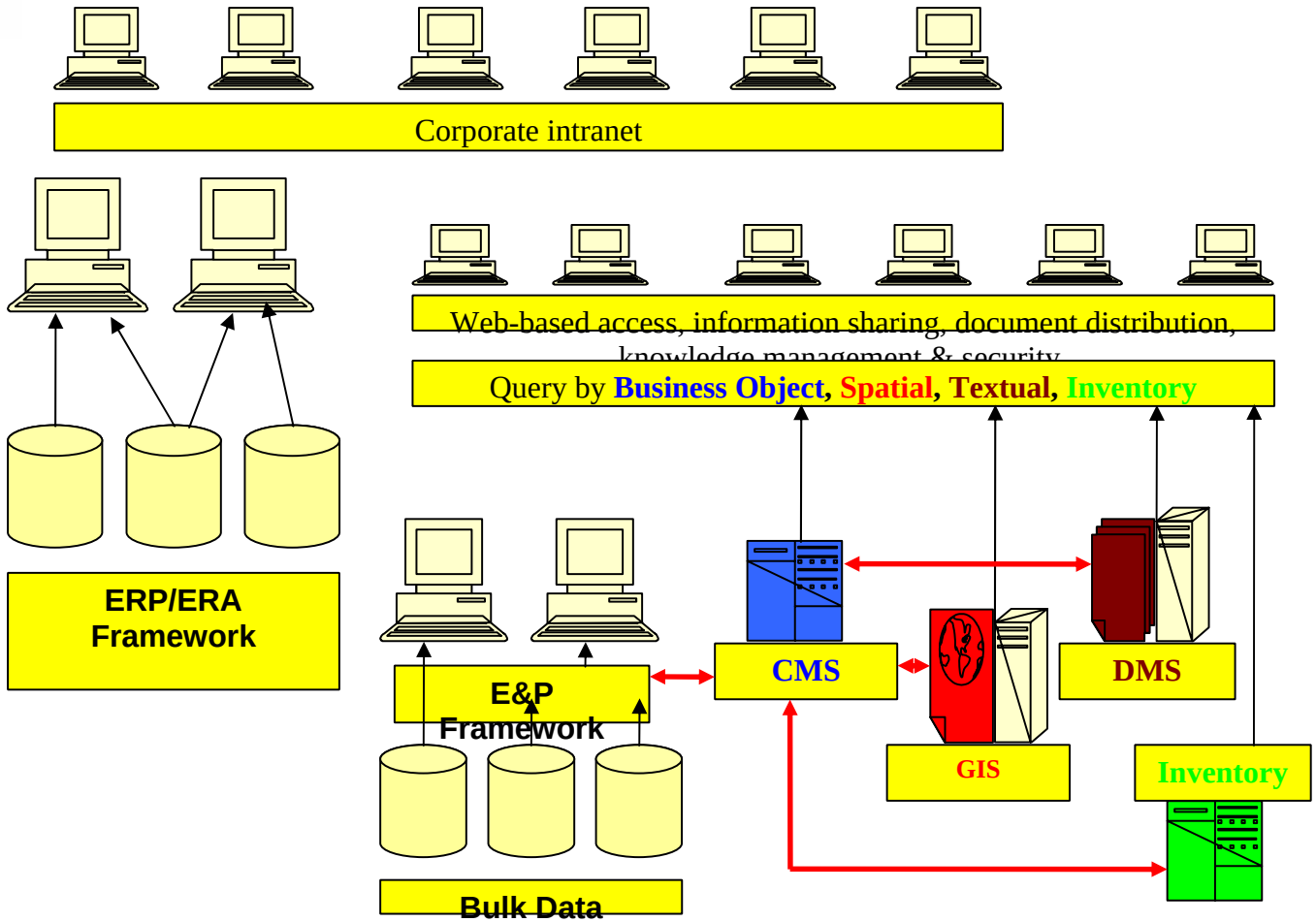
Standards landscape

- PPDM given us standard data model
- POSC/WITSML given us managed data & web services
- Metadata management
  - PPDM lite
  - Taxonomy projects

Technology laggard?

- Track record at bleeding edge of technology (Epicentre, BOs)
- Early adopter of XML and SOAP
- Adapted to scientific domain – breaking new ground
- Constant battle to match with IT/reality

Master Data


Corporate intranet
Web-based access, information sharing, document distribution,
Query by Business Object, Spatial, Textual, Inventory
ERP/ERA Framework
E&P Framework
Bulk Data
CMS
GIS
DMS
Inventory

Conclusions

- Standards are as various as data management projects
- They need purpose and planning to succeed and effort to maintain
- New IT technologies have made a big difference to managed data .. but ..
- Tendency for IT to look after its own stuff...
- Still need much more implication of domain specialists
- Upstream not technology laggard
- Managed data
- Master data